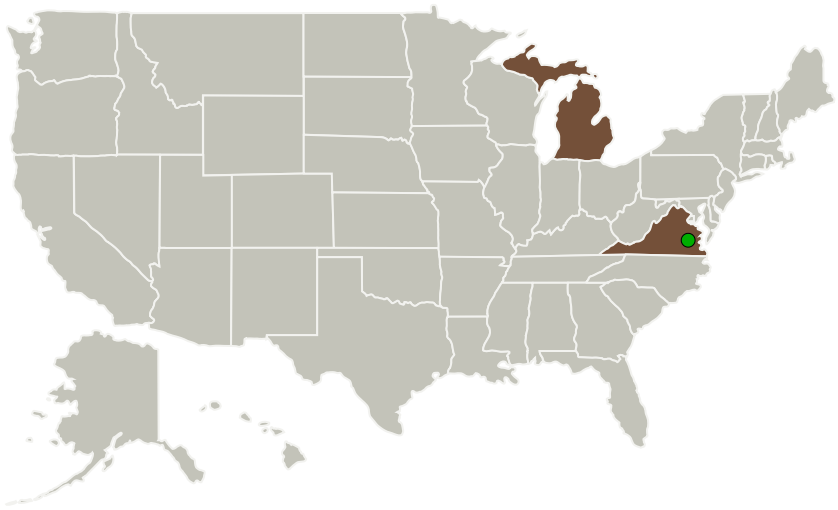
RIDES: Raman Icing Detection System, Phase I

Completed Technology Project (2013 - 2013)

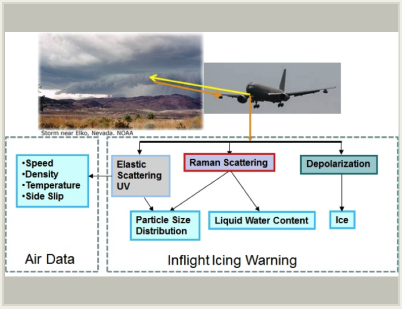
Project Introduction

Michigan Aerospace Corporation proposes to develop an integrated LIDAR instrument capable of identifying icing conditions while also providing air data sensing capabilities. The resulting Raman Icing Detection System (RIDES) will be an integrated air data sensing and icing condition detection instrument, providing a backup to the Pitot tubes potentially affected by icing, thus providing redundancy for critical information. The proposed solution will operate without protrusions into the flow, behind a flush mounted window on the skin of the aircraft, mitigating the risk of ice build-up during operation. This project will utilize MAC's extensive heritage of rugged LIDAR system design and construction.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Michigan Aerospace Corporation	Lead Organization	Industry	Ann Arbor, Michigan
Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia



RIDES: Raman Icing Detection System

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Primary U.S. Work Locations	
Michigan	Virginia

Project Transitions

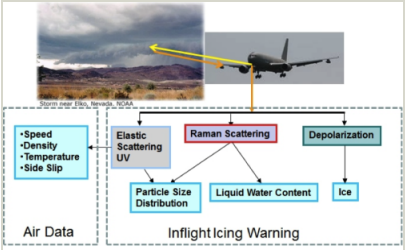
May 2013: Project Start

November 2013: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/140353)*

Images



Project Image
RIDES: Raman Icing Detection System
(https://techport.nasa.gov/image/134909)

Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Organization:
Michigan Aerospace Corporation

Responsible Program:
Small Business Innovation Research/Small Business Tech Transfer

Project Management

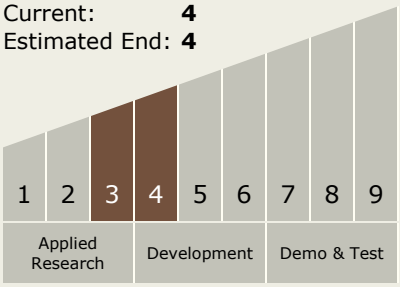
Program Director:
Jason L Kessler

Program Manager:
Carlos Torrez

Principal Investigator:
Charles Richey

Technology Maturity (TRL)

Start: **3**
Current: **4**
Estimated End: **4**



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Completed Technology Project (2013 - 2013)

Technology Areas

Primary:

- TX01 Propulsion Systems
  - TX01.3 Aero Propulsion
    - TX01.3.11 Engine Icing

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System